REMARKS

This Application has been carefully reviewed in light of the Office Action mailed March 25, 2003. In order to advance prosecution of this case, Applicants amend Claims 7-8, 11-12, 22-23, 34-35. Applicants have added Claims 36 and 37, however the addition adds no new matter to the application. Applicants respectfully request reconsideration and favorable action in this case.

Drawings

The Examiner notes in the Office Action that formal drawings will be required for allowance. Applicants submit that formal drawings were submitted on November 12, 2002. A copy of the formal drawings as previously submitted and a return post card indicating that formal drawings were received by the Patent and Trademark Office on November 18, 2002, is attached to this response.

Section 112 Rejections

The Examiner rejects Claim 8 under 35 U.S.C. § 112. Claim 8 recites the limitation "the CPU". The Examiner claims there is insufficient antecedent basis for this limitation in the claim. Applicants have amended Claim 8 to change the acronym CPU to "central processing unit", as required by the Examiner. Applicants submit that amended Claim 8 is no longer indefinite and respectfully requests that the rejection under 35 U.S.C. §112, second paragraph be withdrawn. Applicants submit further that the amendment to Claim 8 does not narrow the scope of Claim 8 as originally filed.

Section 103 Rejections

The Examiner rejects Claims 7-12, 22-23, and 34-35 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,470,289 issued to Peters et al. ("*Peters*") in view of U.S. Patent No. 6,037,732 issued to Alfano et al. ("*Alfano*"). Applicants respectfully traverse these rejections.

The Office Action, ¶5, refers to Claims 7, 22, and 24 of the present application. However, Claim 24 was previously cancelled without prejudice or disclaimer, in response to

a restriction requirement received by Applicants. Applicants assume for purposes of this argument that the Office Action meant to refer to Claim 34 in lieu of Claim 24. Claims 7, 22, and 34 as amended are respectfully submitted for reconsideration in light of the following discussion.

Claim 7 is directed to a method for controlling a plurality of server chassis cooling fans that includes transmitting requests to multiple server processing cards to read respective operating temperatures measured at first and second temperature sensors of the first and second server processing cards. The first and second operating temperatures are received at a central processing unit and compared to first and second maximum operating temperatures. If either of the first or second operating temperatures is above its predetermined maximum operating temperature, a request is transmitted to the plurality of server chassis cooling fans to increase their speed. Claim 7 also requires that the server processing cards and the plurality of server chassis cooling fans are at least partially disposed within a server chassis. Neither *Peters* nor *Alfano*, alone or in combination, disclose, teach or suggest each of these limitations.

For example, neither *Peters*, nor *Alfano* disclose, teach or suggest a plurality of server chassis cooling fans that are at least partially disposed within a server chassis. Furthermore, neither *Peters* nor *Alfano* disclose, teach or suggest a plurality of server processing cards being at least partially disposed within the same server chassis.

The Office Action contends that "*Peters* et al shows controlling a plurality of server chassis cooling fans..." and refers Applicants to "Figure 1, Claim 1, Col. 3, lines 53-65" to support this contention. *See Office Action*, ¶5. Applicants respectfully traverse this characterization of *Peters*. The teachings of *Peters* are directed to the use of a single temperature response element to control the speed of a single fan. *See Peters*, Col. 3, lines 53-65, Figure 1 and Claim 1.

Peters also contemplates that the operating temperature received by the central processing unit will originate from a temperature sensor coupled to the central processing

unit which is processing the information. *See Peters*, Claim 1, column 3, lines 53-65. The language of *Peters* allows no other reasonable interpretation. The invention defined by amended Claim 7, on the other hand, utilizes a single central processing unit to compare multiple operating temperatures received from multiple temperature sensors of multiple server processing cards, to corresponding predetermined maximum temperatures. If any of the operating temperatures are in excess of their associated predetermined maximum temperature, a request is transmitted to the server chassis cooling fans to increase fan speeds.

The Examiner alleges that "[i]t is well known in the art to use multiple fans inside one computer casing to provide maximum cooling capabilities." *See Office Action*, ¶7. The Examiner alleges further that *Alfano* "shows the control of multiple fans from a single fan control card as used in *Peters*." *Id.* Applicants respectfully traverse these conclusions of the Examiner. However, even if these conclusions were correct, the references cited by the Examiner do not obviate the use of a single CPU to request respective operating temperatures from a plurality of server processing cards, such that a request to increase the fan speed of a plurality of fans may be transmitted if any one of the operating temperatures is above a respective predetermined maximum.

Further, since the central processing unit of *Peters* that determines whether the signal needs to be sent to increase the fan speed is the same and only central processing unit being monitored, the fan speed will necessarily be dependent solely upon the temperature of the individual central processing unit. As amended Claims 7, 22, and 34 demonstrate, the server chassis cooling fans are signaled to increase speed if any of the monitored server processing cards exceeds its respective predetermined maximum operating temperature.

Similar to Claim 7, each of Claims 22 and 34 require that multiple server cooling fans and multiple server processing cards are disposed within a server chassis. Respective temperature sensors of the plurality of server processing cards are used measure the respective operating temperatures associated with the server processing cards. If one of the multiple operating temperatures is above its predetermined maximum operating temperature,

the speed of the fans is increased. As discussed above, neither *Peters*, nor *Alfano*, alone or in combination, disclose, teach or suggest each of these limitations.

For at least these reasons, Applicants respectfully submit that amended Claims 7, 22, and 34 are patentable over the cited art and requests that the Claims be allowed.

Claim 8 requires that at least three operating temperatures received from at least three temperature sensors, respectively, be compared to predetermined maximum operating temperatures. If any of the operating temperatures are above their respective predetermined maximum operating temperature, a request to increase the speed of the server chassis cooling fans is transmitted. *Peters* does not disclose, teach, or suggest the monitoring of multiple temperature sensors to determine whether the speed of the fan should be increased.

The Office Action rejects original Claim 8 and contends that *Peters* teaches having two temperature sensors. *See Office Action* ¶ 9. However, a careful reading of *Peters* shows that only one temperature sensor output is used to determine the speed of the fan, while the other temperature sensor output is used to determine whether a change in the clock speed of the CPU being monitored is appropriate. *See Peters,* Claim 1, columns 3-4, lines 53-2 column 13-14, lines 62-1.

In light of the preceding discussion and noting that Claim 8 depends from amended Claim 7, Applicants respectfully submit that Claim 8 is patentable over the cited art, for example, for the same reasons discussed above regarding Claim 7 and request that the rejection of Claim 8 be withdrawn.

The Office Action, ¶11, claims that *Peters* contemplates transmitting the first signal over a PCI bus and thus contains all elements of Claim 10. However, this conclusion cannot be drawn from the discussion in *Peters,* which refers to PCI devices only in the context of devices surrounding the central processing unit which dissipate heat and cause a higher temperature condition adjacent to the central processing unit. *See Peters* column 7, lines 26-

31. *Peters* does not contemplate transmitting a request to increase fan speed over a PCI bus and therefore, does not obviate Claim 10.

Claims 9-13 each depend from independent Claim 7, Claim 23 depends from independent Claim 22, and Claim 35 depends from independent Claim 34. Therefore, Applicants respectfully submit that Claims 9-13, 23, and 35 are patentable over the cited art, for example, for the same reasons discussed above with regard to Claims 7, 8, 22, and 34, and request that the rejection of Claims 9-13, 23, and 35 be withdrawn.

The Office Action rejects Claim 20 and contends that "all features of this claim have been singularly met above with the exception of the ability of the fans to be controlled by any server processing card." *See Office Action*, ¶14. The Office Action contends further that "it would have been obvious... to network two of the computers as shown above to allow either computer motherboard or processing card to control any of the cooling fans because if multiple fans are used to cool computers in different parts of a room or rack, all computers should have control over each fan." *Id.* The Office Action provides no support whatsoever for these assertions of the Examiner (e.g., that it is obvious that all computers should have control over each fan), and Applicants respectfully traverse. However, even if proper support were provided, such teachings do not obviate amended Claim 20.

Amended Claim 20 is directed to a system in which a plurality of server processing cards each include a temperature sensor and a respective central processing unit that is operable to read temperatures measured by the temperature sensors. A printed circuit board couples each server processing card with a plurality of server chassis cooling fans that are operable to increase their speeds of rotation if any server processing card indicates an operating temperature greater than a predetermined maximum operating temperature. In this manner, each server processing card may be independently monitored, to determine if an operating temperature measured by the associated temperature sensor exceeds a predetermined maximum. Neither *Peters* nor *Alfano*, alone or in combination, disclose, teach or suggest these limitations. For example, neither *Peters* nor *Alfano* contemplates a plurality

of server processing cards each having a temperature sensor, and each having the ability to affect the speed of rotation of a plurality of server cooling fans.

In view of the preceding discussion, Applicants respectfully submit that Claim 20 is not obvious and request that the rejection of Claim 20 be withdrawn.

The Office Action ¶16 states that the "Examiner takes the ability to control multiple fans to satisfy the claim requirement that there be more fans that fan control cards." The Examiner misinterprets Claim 21 to call for more fans than fan control cards. A careful reading of the claim will reveal that it is claiming a system where the server processing cards outnumber the fans.

In light of the preceding discussion and with notice that Claim 21 depends from Claim 20, Applicants respectfully submit that claim 21 is patentable over the cited art, for example, for the same reasons discussed above regarding Claim 20 and request that the rejection of Claim 21 be withdrawn.

The Examiner rejects Claim 13 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,470,289 to *Peters* in view of U.S. Patent No. 6,037,732 to *Alfano* and further in view of U.S. Patent No. 6,065,081 to Stancil et al. ("*Stancil*").

As discussed previously, Claim 13 depends from independent Claim 7. Therefore, Applicants respectfully submit that Claim 13 is patentable over the cited art, for example, for the same reasons discussed above with regard to Claim 7, and request that the rejection of Claim 13 be withdrawn.

Conclusions

Applicants have made an earnest attempt to place this case in condition for allowance. For the foregoing reasons, and for other reasons clearly apparent, Applicants respectfully request full allowance of all pending Claims. If the Examiner feels that a telephone conference or an interview would advance prosecution of this Application in any manner, the undersigned attorney for Applicants stands ready to conduct such a conference at the convenience of the Examiner.

Applicants believe no fee is due at this time, however; if a fee is due, the Commissioner is hereby authorized to charge any fees or credit any overpayments to Deposit Account No. 02-0384 of Baker Botts L.L.P.

Respectfully submitted,

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